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ABSTRACT

This document describes the comprehensive analytical framework for school finance used by the Illinois State Board of Education to assist policymakers in their decisions about equitable distribution of state aid and appropriate levels of resources to meet the varying educational requirements of differing student populations. This framework, the Resource Cost Model (RCM), provides: (1) a rationale for linking adequacy and equity considerations in state school finance formulas; and (2) questions for policymakers that will reveal a definition of what is thought to be adequate and appropriate in financial matters. The model involves three basic elements: program and service specifications made at the state level; student enrollment patterns at the district level; and resource price and cost data. In implementing an RCM, a major policy that must be confronted is the desired degree of centralization. The RCM is also valuable as a tool for planning and budgeting for any local, state, or federal educational agency. Three figures provide two views of the RCM and the Illinois RCM committee structure. (PB)

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DERIVING APPROPRIATE EDUCATIONAL PROGRAM COSTS IN ILLINOIS

DRAFT

BY

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AND

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October 12, 1982

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ABSTRACT

States are currently facing many new challenges in the financing of public education. In the 70's, the school finance reform movement, the "taxpayer's" revolt and the surge of special student populations have all generated unresolved policy issues relevant to education finance. The movement toward block grants, the proposed "new federalism" and tax credits for the growing private sector of schools represent potential new challenges for the 80's. A comprehensive analytical framework is required that will assist educational policy makers within states to make the many subjective judgments required to distribute state aid equitably and to provide "appropriate" levels of resources to meet varying educational needs of various student populations.

Deriving definitions of educational programs in terms of the resources "required" constitutes a major component of an innovative educational finance project currently being conducted in the state of Illinois. Several levels of committees have been formed for the purpose of defining and evaluating the relative resource needs of the various educational programs that have been specified for the state. In determining what is appropriate, each committee must attempt to strike a balance between what is pedagogically most desirable and what is affordable. Membership on these committees include educators from the field, personnel from the Illinois State Board of Education, legislative analysts, representatives from special educational interest groups and Bureau of the Budget personnel. Combined with data on resource costs and program membership in the 1,000 plus school districts of the state, it is possible for these committees to consider the effects of competing educational program investment strategies through the use of a computer simulation model. The result of this process is an estimate of the costs of providing standardized educational programs in each school district of the state. This program cost information can then be used as an underlying rationale for a state school finance formula that systematically controls for variations in educational program costs.

Much of the conceptual work underlying the school finance general aid formulas found in the states was developed in the era 1920-1940. Given the increased sophistication of school finance issues, these approaches are often too simplistic to adapt well to the many demands currently being placed on the state aid education dollar. A comprehensive analytical framework is required that will assist educational policy makers within states to make the many subjective judgments required to distribute state aid equitably and to provide "appropriate" levels of resources to meet the varying educational requirements of differing student populations. The purpose of this paper is to outline such a model and to discribe its operationalization in the state of Illinois. It will conclude with some observations relating to the Illinois experience and some prognoses for the future.

I. The Need for a Comprehensive Framework

Although the states have always held official jurisdiction over education in America, historically public schooling has been a local phenomenon. Over the period of the last decade, however, the states have come to bear the primary responsibility for education in fact, as well as in principle.

Since 1930, when the state revenue share was a relatively meager 17%, state support for education has surged to a current estimated level of 49%. In most states, public education accounts for between 30 and 35% of the total state budget, usually constituting the largest single item. Inevitably a salient political topic, the financing of public education currently faces many new challenges. In the 70's, the school finance reform movement, the "taxpayer's" revolt and the surge of special student populations have all generated unresolved policy issues relevant to education finance. The movement toward block grants, the proposed "new federalism" and tax credits for the growing private sector of schools represent potential new challenges for the 80's.

Equity and adequacy considerations are found in the design of all of the state school finance formulas. Few, however, have any underlying rationale to tie them together. Although most states guarantee a "basic," "foundation," or "thorough and efficient" education to all school age children, few provide any definition to these concepts that relate to the actual delivery of educational services. This fact renders attempts to measure the equity of ~~of~~ the resulting systems as largely ineffectual.

By far the most common approach to allocating educational resources in the states implies "foundation" and "classification" definitions of equity. The first implies a guarantee of some prescribed minimum for all of the state's pupils while the second emphasizes the vertical equity concept with certain classifications of pupils being designated as eligible to receive prescribed resource supplements. These supplements are usually determined on the basis of exceptional learning characteristics.

As is noted by Wise (1968), the "classification" definition of equity leaves a great deal to the judgment of educational decision makers. Thus, although employing definitions of equity that require large numbers of subjective evaluations, such as the special classifications to employ, the criteria for inclusion, and the "appropriate" resource differentials, few states have any underlying rationale to guide them in making these determinations.

What generally prevails is a state guarantee of a foundation grant per pupil. The needs and usually the funding for pupils with exceptional program needs are most often considered apart from the base level of funding or are expressed as some multiple of that base. Generally there is little or no explicit rationale in defense of the base or the categorical add-ons. Categorical programs are sometimes based on an average cost approach or what districts have, on average, spent for exceptional categories in the past. As these cost categories are most often based on labels, which characterize the exceptionality of students rather than the appropriateness of programs to serve them, the cost variations that underlie them are most often very large. Seldom are such questions asked as "What level of services are appropriate for children of various learning characteristics?" or "How much would it cost if this uniform level of services were to be provided at least as a minimum, in all of the districts of the state?"

Policy makers must begin to develop a school finance structure and information system that will enhance their ability to observe the linkages between educational outcomes and the ingredients of the system. This may require a highly structured, though flexible, system of school finance based on the specification of the ingredients of an "adequate" education and the determination of the costs of these ingredients. The objective of this kind of structured school finance system is to facilitate decision making at all levels as well as provide a foundation for funding. In order to make informed judgments about school funding, policy makers must first know what the alternative investment strategies look like in terms of the ingredients of the system, and second they must devise a mechanism for choosing among these strategies with some notion of what the outcomes of the system are. This kind of information system could potentially improve economic decisions by setting out the cost consequences of various educational strategies as well as improve the political judgments regarding which strategies might be preferred to reach particular educational or social goals.

With these perspectives in mind, it should be clear that adequacy and equity considerations cannot be addressed by simply focusing attention on the distribution of nominal differences in school spending, but rather must be directed toward the examination of variations in the distribution of "real" educational services. Indeed, some nominal variations in school spending may be justified on the basis of uncontrollable variations in the prices of school resources, differing needs of student populations, variations in the scale of school district operations, and variations in other locational attributes such as student population, population density and climate. For example, districts in regions exhibiting higher

costs of living or a poorer quality of life (e.g., a poor climate or high crime rate), or districts serving high proportions of low ability or disadvantaged student populations may have to pay higher salaries to attract teachers or other school personnel possessing the required set of skills, abilities and characteristics. Districts in sparsely populated areas may exhibit higher costs for transportation services or higher fixed costs for school facilities and administration. Districts in colder climates will have to pay more for energy to heat classrooms than districts in warmer areas, while areas in particularly hot and humid regions will incur greater air conditioning costs. Given these differences in resource prices and service costs, it should be evident that a dollar of educational spending in one district is likely to buy different kinds of personnel services, levels of transportation services, and amounts of heating and/or cooling than a dollar spent in another district.

But beyond these variations in resource prices and service costs, school districts serving different student populations will incur differences in educational costs related to the variations in the kinds of educational programs that must be offered to service the variety of educational needs. Conventional wisdom suggests that different kinds and combinations of school resources (e.g., teachers, teacher aides, program supervisors and administrators, purchased services, supplies and materials) will be required to provide educational services for pupils with varying educational needs. The characteristics of children commonly accepted as deserving of special attention with regard to educational needs include socioeconomic status, handicapping conditions, and English language proficiency. However, one can conceive of a broader conceptualization of the variety of educational needs to include age and grade levels, exceptional intellectual capabilities, and orientations or skill areas which are matters of student choice, such as college preparatory or vocational education programs.

II. The Resource Cost Model as an Underlying Rationale for a School Finance System

A comprehensive school finance model requires analyses of both the variations in the costs of educational resources and "appropriate" differences in the costs of educational programs. What is required is a conceptual framework providing a systematic method for organizing data relevant to the determination of the cost of educational programs. This would facilitate the estimation of programmatic costs both as they relate to differences in the educational needs of different student populations and to variations in the scale of school and district operations.

In short such a framework could provide a basis upon which a school finance system may be built. It could reveal how much each district will require to provide an "appropriate" education for its students and to determine the total educational expenditures required in the state to accomplish this goal. It could be used with any number of school finance formulas as a basis for distributing state aid to local school districts.

Such a framework in and of itself should not describe what an appropriate set of educational programs should look like. It must be designed in the absence of preconceived notions of how an appropriate education ought to be defined. Rather it should facilitate the determination by educational policy makers of how to define an appropriate education and what resources and resource configurations are required. Rather than a set of answers to what is appropriate, such a framework consists of a set of systematic questions that when answered by policy makers will reveal preferences for educational services and thereby a definition of what is regarded as adequate or appropriate by the policy making bodies responsible for such decisions.

We refer to this type of model as the Resource Cost Model because it systematically includes resource configurations and cost adjustments to capture the full range of variation in educational costs. There are three basic elements:

(1) Program and service specifications made at the state level;

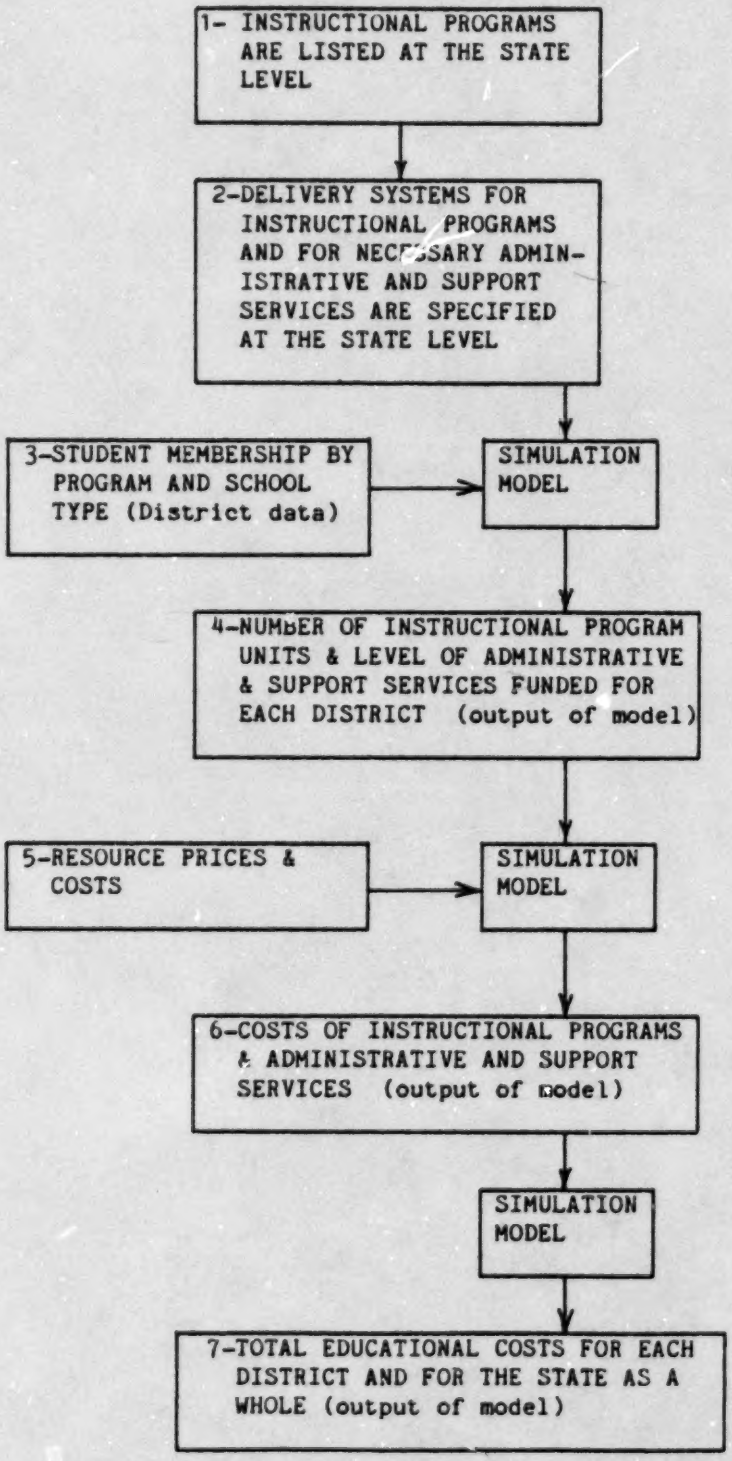
(2) Student enrollment patterns at the district level;

(3) Resource price and cost data.

Figure 1, "The Basis for a School Finance System - an RCM Approach," is designed to provide an overview of the various steps involved in the development of such a school finance model.

FIGURE 1

The Basis for a School Finance System - an RCM Approach


1- INSTRUCTIONAL PROGRAMS ARE LISTED AT THE STATE LEVEL
2-DELIVERY SYSTEMS FOR INSTRUCTIONAL PROGRAMS AND FOR NECESSARY ADMINISTRATIVE AND SUPPORT SERVICES ARE SPECIFIED AT THE STATE LEVEL
3-STUDENT MEMBERSHIP BY PROGRAM AND SCHOOL TYPE (District data)
SIMULATION MODEL
4-NUMBER OF INSTRUCTIONAL PROGRAM UNITS & LEVEL OF ADMINISTRATIVE & SUPPORT SERVICES FUNDED FOR EACH DISTRICT (output of model)
5-RESOURCE PRICES & COSTS
SIMULATION MODEL
6-COSTS OF INSTRUCTIONAL PROGRAMS & ADMINISTRATIVE AND SUPPORT SERVICES (output of model)
SIMULATION MODEL
7-TOTAL EDUCATIONAL COSTS FOR EACH DISTRICT AND FOR THE STATE AS A WHOLE (output of model)

Box 1. The process begins with the development of a list of instructional programs at the state level. This list should include the kinds of courses or educational technologies that are to be made available to students within the state.

Box 2. The second step involves the specification at the state level of delivery systems (i.e., resource configurations) that will be required to provide these instructional programs and the administrative and support services which accompany each program category.

Box 3. The third step involves the collection of data on student headcounts (e.g., enrollments) for each instructional program and for each type of administrative service required. The purpose of these data are to determine how many students will be counted in each program and in any given type of school for each district in the state.

Box 4. This box represents an output of the simulation model and is derived from the data input specified in boxes 2 and 3. Student membership data collected from the districts in combination with the delivery systems specified at the state level may be used to determine the number of instructional program units (e.g., classes or courses) and the level of administrative and support services (e.g., the number of school principals, psychologists, and school secretaries) to be funded for each district.

Box 5. Resource prices and costs are derived from an analysis of the variations in expenditures required by different districts to obtain access to comparable school inputs. This is based on an analysis of variations in the cost of educational resources across local school districts (e.g., See Chambers, 1981).

Box 6. The quantities of school resources as determined in box 4 and their costs as determined in box 5 are combined to determine the costs of instructional programs and the administrative and support services for each district in the state.

Box 7. The simulation then adds up all of these costs to determine the total cost of educational services for each district and for the state as a whole. It is this base that then serves as a basis for the planning, budgeting and financing of schools.

There is a feedback loop between box 7 and box 2 to reflect the iterative nature of the process of specifying program and service delivery systems. That is, the model can be used to determine what the state budget would have to be to fund the specified programs throughout the state. If, for example, this estimated budget differs from the intended allocation that is likely to be made available for educational services by the state legislature or if the model were being used to simply simulate cost implications of several alternative specifications, programs and services could be respecified. This analysis could also be used as a source of information and input into the overall budget process in considering the relationship of the educational budget to non-educational portions of the public budget.

The RCM provides direct linkage between services and dollars and thereby provides a valuable benchmark in determining how the dollars would or could be spent in comparison with non-educational dollars.

III. Operationalizing the Model in Illinois

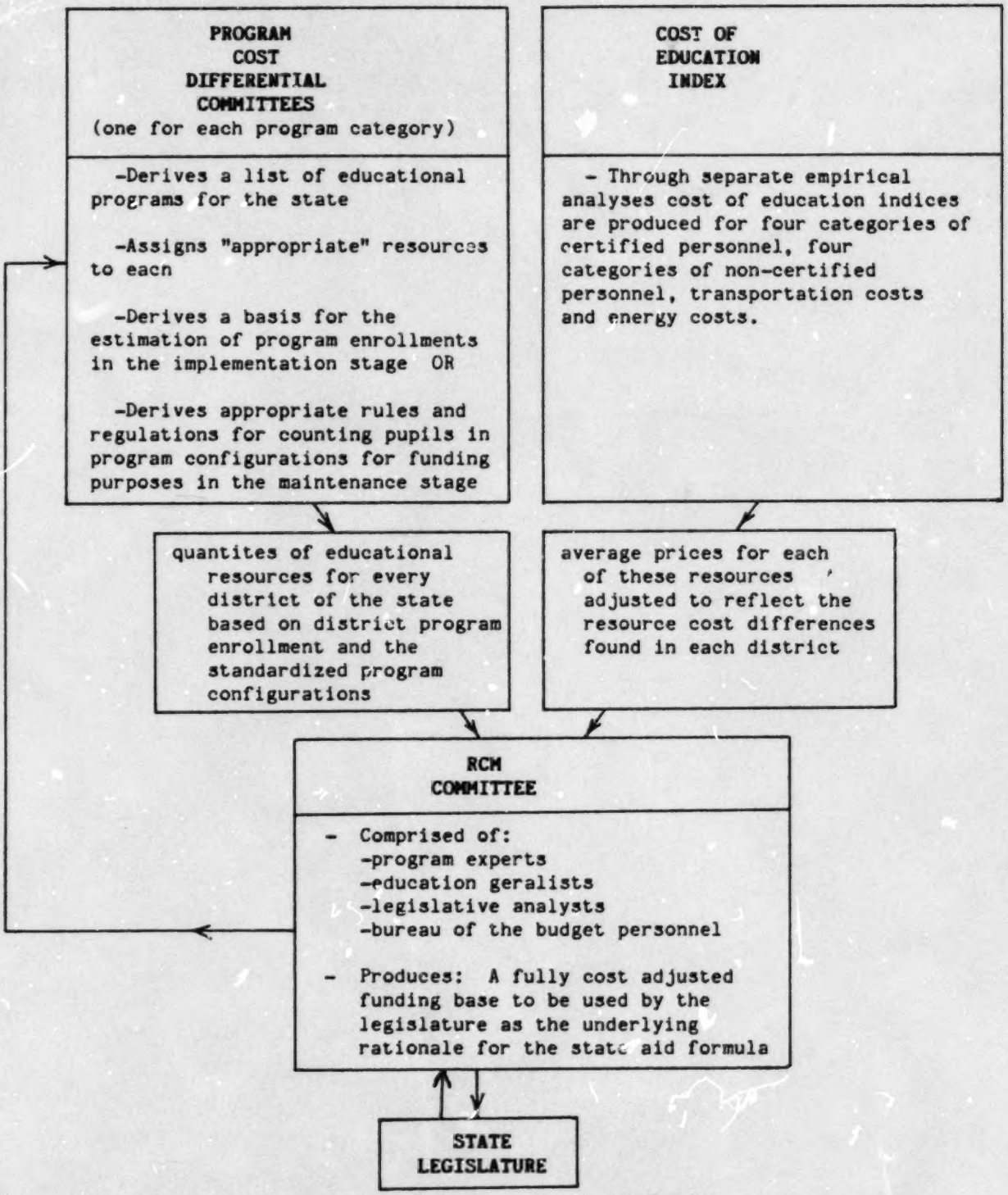
The resource cost model methodology, as described above, has been adopted by the Illinois State Board of Education (ISBE) as part of a larger public school finance project in the state. This project is being conducted by the authors under the auspices of the Associates for Education Finance And Planning (AEFP). This has required the operationalization of the RCM concept. Among other things, this confrontation with reality has forced a considerable evolution of the RCM model.

We now refer to this concept as the RCM process. The metamorphosis from model to process reflects the realization that the interaction of educational program experts and educational policy makers is the crux of the Resource Cost Model concept. On the drawing board the empirical strength associated with the computer simulation program was seen as the primary thrust of this model. But while empirically oriented components of the RCM procedure (e.g., the CEI) can stand alone, when considered in the larger context of the RCM approach to educational cost estimation, the only purpose for the computer simulation capabilities of the model is to inform the subjective decision making processes that produce public policy.

The view of the RCM process shown in Figure 2 presents the same basic flow of events shown in Figure 1, but with less emphasis on the simulation model and more emphasis on the way educational policy is derived utilizing this model. The simulation model is still an important component in this revised conception of the RCM process, but is seen more in the context of a tool that could be useful througout the flow of the process. Simulations could be run by the program category committees, the RCM Committee or the state legislature to provide insight into the sets of subjective decisions that each will confront in the evolution of this process.

FIGURE 2

DERIVING AN RCM FUNDING BASE


PROGRAM COST DIFFERENTIAL COMMITTEES
(one for each program category)
-Derives a list of educational programs for the state
-Assigns "appropriate" resources to eacn
-Derives a basis for the estimation of program enrollments in the implementation stage OR
-Derives appropriate rules and regulations for counting pupils in program configurations for funding purposes in the maintenance stage
COST OF EDUCATION INDEX
- Through separate empirical analyses cost of education indices are produced for four categories of certified personnel, four categories of non-certified personnel, transportation costs and energy costs.
quantites of educational resources for every district of the state based on district program enrollment and the standardized program configurations
average prices for each of these resources adjusted to reflect the resource cost differences found in each district
RCM COMMITTEE
- Comprised of:
-program experts
-education geralists
-legislative analysts
-bureau of the budget personnel
- Produces: A fully cost adjusted funding base to be used by the legislature as the underlying rationale for the state aid formula
STATE LEGISLATURE

The ultimate question they face, confronts every state in the union:

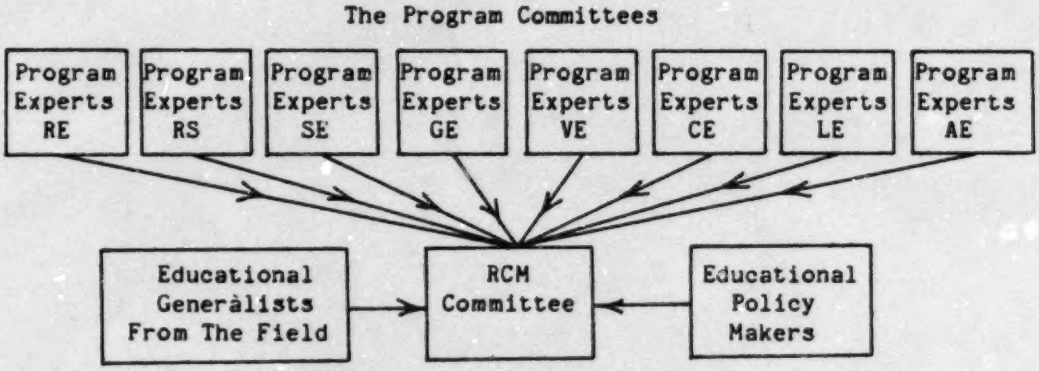
> "What should be the "base" aid amount and how much more or less should each district of the state receive to serve pupils with special characteristics as opposed to the amount received for the servicing of "regular" program pupils?"

The RCM process derives program cost differentials on the basis of the very detailed consideration of what programs should cost and what priorities will be attached to particular educational needs. This approach acknowledges the subjective nature of any system for deriving program funding differentials. As well, however, it requires a fairly elaborate process for bringing select groups of individuals together for the purpose of considering these subjective decisions within the context of a highly structured setting.

Eight categories of instructional programs are delineated in Illinois: elementary (RE), secondary (RS), special (SE), gifted (GE), vocational (VE), limited English (LE), compensatory (CE) and adult education (AE). Six of these programs are outside "regular" education. The Committee structure developed for this purpose in Illinois is diagrammed below:

Figure 3

The Illinois RCM Committee Structure



The goal of this process is a listing of educational programs that are deemed "appropriate" from a state perspective with an accompanying description of each program in terms of the specific resources that are considered necessary to provide the program at an "appropriate" level. The repeated references to the term "appropriate" gives some indication of the context in which the various program committees are asked to consider the relative adequacy of the educational programs they are describing.

"appropriate" conveys the indeterminable nature of educational services. As is the case in most social welfare decisions it is difficult to consider in any objective way how much is enough. Questions as to whether a society is prosperous enough or healthy enough or free enough of crime can never be considered in isolation from one another or the limitations on societal resources. Similarly, Resource Model Committee members are asked to consider the relative needs of educational programs as constrained by the limitations on the overall level of resources available to society and the competing needs for these resources within society. A more down-to-earth description of the perspective they must take is that each committee member and each committee must keep in mind a balance between the resources they would like to see for each educational program and what they believe to be affordable.

The human processes inherent in this task have evolved throughout this project. In developing this enlarged process component of the RCM, a number of issues had to be confronted. Some have evolved past the confrontation stage to resolution and others are still in the process of resolution. Who are the program experts and policymakers and in what context should they interact? What constituencies, interest groups and decision making bodies should be included in this interactive process? What are the limitations on their charge and what procedural rules should govern their interaction? Who will lead the process and how will a consensus be determined? In what way will a "final" set of configurations be expected to result from this process and to what extent should they be considered final? Should the Program Cost Differential Component be able to stand alone or should it ultimately and "finally" be considered only in tandem with the CEI resource cost adjustments? While these decision makers clearly must be constrained by the resource limitations of the state, how strictly and to what extent should these constraints be applied?

An overview of the procedures used in the development of the RCM process in Illinois can be divided into four stages:

The first step involved the provision of information and instruction to those individuals be participating in the specification process or affected by the outcomes of the policies adopted as a result of the development of the RCM. Literature was distributed and workshops held in Springfield and Chicago for the various participants in the specification process as well as for other individuals tied to the educational policymaking network of the state. The primary thrust of these workshops was to introduce the PCD methodology and to provide general information as to the forthcoming specification procedures. This approach to program description and categorization is generally alien to educators. It was our experience in Illinois, however, that after relatively brief periods of training, program experts are able to break down instructional programs into categories on the basis of the educational resource specifications they require and then describe "appropriate" resources for these programs. We have also learned, however, that this is not done easily or quickly.

The second step was the formation of the RCM program committees. A separate committee was formed for each of the recognized program

areas in the state, as shown above. These committees were comprised of about three to six members and had the responsibility for the initial specification of the instructional programs within their programmatic areas.

They derived a list of instructional program configurations that best approximated the full range of specifications appropriate to their program categories. Considering the massive number of instructional programs that could conceivably be specified across the eight program categories, the need for aggregation and simplification in this task is clear. The balance to be struck is between the necessity to consolidate similar kinds of programs in terms of the resources required and the danger of obscuring appropriate programmatic cost differences. This task also required that committee members consider educational programs in a new way.

One hundred fifty-two instructional configurations have been specified across all of the program categories. This number is large enough to capture program cost variations in great detail, but well within the capability of the RCM computer program and not so large as to become unwieldly. Of course some of the program categories experience a great deal more diversity in relative program costs than others, e.g. 48 special education programs are specified as opposed to 5 for the program category, gifted education.

Beyond this, each committee had to specify a program administration support structure. In addition, some program categories have special schools which necessitated additional effort in specifying school administrative structures for their areas. The Regular Elementary and Regular Secondary Committees, for example, were required to specify "appropriate" administrative and support services at the program administration levels, for three kinds of schools and at the district administration level.

A fourth step was the compilation of the other data requirements for the RCM computer simulation model. One major data set required in this regard is, of course, the full set of educational cost indices. These indices are developed through a set of procedures which is quite separate from the committee process pictured above. These procedures are described in a document available from the Illinois State Board of Education (ISBE) or the AEFP entitled: "Processes and Procedures for Computing the Illinois Cost of Education Index." /AEFP can be contacted c/o Tom Parrish, 953 Diestel Drive, Salt Lake City, Utah 84105 or the ISBE through Suzanne Langston, ISBE, 100 N. First Street, Springfield, Illinois 62777./

Two sets of data items relevant to the program specifications had to be compiled as integral components of the RCM. The first of these is a set of average prices for each of the major educational resources listed in the program configurations. For such categories of educational resources as supplies and materials and special equipment, which are specified in dollars, this step was not required. It was necessary, however, for the different categories of personnel delineated, and for fuel and energy. Gathering these average prices, which will subsequently be adjusted by their respective cost of

education indices for each district, was generally a fairly straightforward procedure.

The second set of data requirements represented a more formidable task. District enrollments, or head counts, were determined for each of the instructional program configurations enclosed with this report. If Illinois were to adopt the RCM methodology as a component of ongoing state policy, this procedure could and should be incorporated into the existing data gathering mechanism. Currently, however, few program areas in the states report enrollments on the basis of the specific sets of educational resources their courses require. Thus, one last job for the Program Category Committee members was the conversion of the enrollments for their program categories, as currently reported, into estimates of how these numbers would be aligned in the specified program category configurations.

With all of the program and administrative structures initially specified and the data outlined above prepared, the way was set for a meeting of the larger RCM Committee. This committee is comprised of approximately fifteen members. It includes representatives from each of the educational program categories, several representatives from the field which are designated as "general educators," a representative from the Bureau of the Budget, two legislative analysts and the project director of the ISBE Public School Finance Project, who serves as an ex-officio member. Each member is intended to represent some larger category of educational interests in the state so that a broad spectrum of interests will be reflected.

The role of the RCM Committee is to review the sets of program configurations and to derive a recommended program base to be used with the overall RCM for the state. As a first step in this process, the final sets of program specifications, as drawn by each of the Program Category Committees, were published and circulated for the review of all of the RCM Committee members. Utilizing the RCM computer program, a simulation was run to determine the initial budget shares falling to each program category on the basis of the first-round program specifications submitted to the RCM Committee. These overall cost estimates did not include final resource price adjustments for each of the districts of the state as the CEI component of this study has not yet been completed.

Upon the completion of the CEI component of the AEFP project in the state, the RCM Committee will reconvene. This will occur in the Fall of this year. Cognizant of the resource price adjustments which have been estimated for each of the school districts of the state, the Committee may wish to reconsider the initial set of program specifications and the overall impact of the model on the distribution of educational funds throughout the state. With the availability of this additional data, the Committee may wish to run some additional simulations to test the impact of various programmatic policy decisions on the flows of funding.

IV. Future Considerations Relating to the RCM in Illinois

As mentioned above, many issues must still be resolved relating to the implementaion and maintenance of the RCM process in Illinois. This last section addresses three issues relating to the ongoing utilization of an RCM model. The first discusses the application of the RCM to state aid distributions, the second the issue of centralization and the last, alternative uses of an RCM.

A. Application of the RCM to State Aid Distributions.

The RCM has been designed as a basis for state school finance distributions determining how much each district within the state requires to provide appropriate levels of educational services. It explicitly recognizes the different fiscal needs of districts serving differing student populations both in their overall composition with respect to basic program categories, but also with respect to the kinds and combinations of specific courses or programs taken by individual students within a district. A dollar figure is attached to each district representing the full cost of providing the educational programs and services specified by the various RCM committees that have been established by the state.

The RCM is not a state aid distribution in and of itself because it does not provide any information about how the burdens of taxation are to be distributed among the citizens of the state. The federal, state and local shares of revenue are not determined or specified by the model. This is up to the discretion of the state. In the simplest of all worlds, however, where one governmental body such as the state assumes full responsibility for educational funding, the RCM does provide all of the information needed to determine how much each district should receive. Under full state assumption, for example, the dollar figure derived from the RCM analysis could represent a cost-controlled dollar amount, to be distributed by the state.

In actuality, formulas and state aid distribution mechanisms are more complicated. However, this model can be adapted to almost any of these complex circumstances. It can serve as the basis for an overall system of block grants, a categorical grant system, a general state aid formula (e.g., foundation or guaranteed tax base) or any combination of the three that might be devised. Basically, all the RCM provides is cost data by program, service or program category. These cost data may be combined with just about any kind of state aid distribution mechanism.

Perhaps the simplest way in which the RCM analysis may be used with existing formulas would be as follows:

Step 1--Compute the level of state aid to which the district is entitled using the existing system of state aid.

Step 2--Compute the total budget that each district is likely to have, given the state aid determined in Step 1, assumptions about local contributions, and the level of federal support that is likely to be received.

Step 3--Compute the cost to each district of providing an "appropriate" set of educational programs and services based on the RCM model.

Step 4--Adjust state aid distribution to ensure every district receives sufficient funds to provide the level of services specified in the RCM.

(a) If the amount computed in Step 3 (RCM cost) exceeds the amount computed in Step 2 (initial budget estimate), then increase the state aid computed in Step 1 by the difference.

(b) If the amount computed in Step 3 is less than or equal to the amount in Step 2 (i.e., if the RCM cost is less than or equal to the estimated budget), then no action need be taken. (This in effect allows for a "hold-harmless" provision in the law.)

The dollar figures derived from the RCM are based on a detailed analysis of program enrollments and resource configurations. Thus, while the results of the RCM can ultimately be summarized in a single dollar figure for each district, in fact, they may be broken down into considerable detail. They could be broken down by any one of the 152 original programs, eight program categories, six school types or the single district level administrative configuration that have been specified by the various committees. Thus, underlying the cost figure attached to each district is a myriad of cost information that can be organized in any number of ways. To use the RCM analysis as the basis of a categorical grant system would simply require reorganizing the cost data by program and service according to the combination of programs to be subsumed under any given category for distribution. Adding these various combinations of programs in a way that is compatible with categorical programs would thus provide a dollar figure which would serve as the basis for the categorical aid distribution. If the state decides to contribute only some specified proportion of the cost of that program, then that proportion is applied directly to the cost figure determined by the RCM analysis for each district.

The RCM cost figures may also be used in conjunction with almost any distribution formula such as the Foundation Plan or the Guaranteed Tax Base (GTB). The Foundation Plan may be written in its most general form as follows:

$$(1) \qquad S_i = F - (r \times V_i)$$

where: S_i = State aid contribution per pupil for district i;
F = the Foundation amount per pupil;
r = the minimum tax rate required on local property for participation in the state aid program;
V_i = local property value per pupil in district i.

The Foundation amount is a constant per pupil amount that the state wants to provide to all pupils in the state. The formula in equation

(1) simply determines what the state share of that foundation amount will be. The state aid per pupil for district i is inversely related to the local property value of the district. The tax rate specified in the formula is a minimum tax rate which the district must impose in order to be eligible for state aid. As this formula is generally applied, districts are permitted to tax at rates in excess of the minimum specified in the formula.

The RCM would be applied in this formula to the foundation amount. As the formula is written above, the foundation amount is constant for all districts in the state. However, this fails to recognize any of the sources of variation in the cost of educational services. The RCM may be used to determine the foundation amount for each district. The dollar figure required for each district to provide the appropriate programs and services (i.e., the dollar figure derived from the RCM analysis) would become the foundation amount and each district would be assigned a unique foundation level. The formula in (1) would be rewritten as:

(2) $\quad S_i = F_i - (r \times V_i),$

where F_i is the RCM cost estimate.

The RCM cost estimates may be used just as easily in combination with a guaranteed tax base or GTB type of formula. Usually, the GTB formula, in effect, provides revenue to any given district based on a guaranteed tax base. If the local community has a tax base which falls short of the guarantee, the state will make up the difference in revenues. Formally, the formula is generally written as:

(3) $\quad R_i = r_i \times v^*$

where R_i = the total revenue to be made available to district i;
r_i = the tax rate imposed by district i;
v^* = the guaranteed tax base per pupil.

Districts selecting higher tax rates (i.e., presumably making greater local effort) receive larger revenues. The state's contribution to the revenues are determined by some formula which reflects an inverse relationship between the percentage contribution of the state and the local property value (i.e., poorer districts receive larger percentages of support).[3] In this instance the RCM cost estimate would be compared to the revenue generated from the GTB formula to ensure that sufficient revenues would be available to meet local needs. If revenues are insufficient the state would simply adjust the guaranteed tax base upward to make sure sufficient revenues would be generated. The state could either require the district to come up with its share of the increase or it could make up the difference.

The examples provided above on the utilization of the RCM with different funding formulas are intended to be illustrative of its use. They are not to be construed as recommendations. How the state actually uses the RCM represents significant policy decisions which will depend upon a range of critical concerns related to how policy makers believe the burden for educational funding ought to be

distributed among local residents and the state or federal government. The purpose of the discussion was to illustrate alternative ways in which the RCM cost estimates could be used in conjunction with funding formulas or other mechanisms and through this discussion to reveal its flexibility.

B. Centralization Versus Decentralization

A major policy issue that must be confronted in implementing a (Resource Cost Model) RCM base to a school finance formula is the desired degree of centralization. This issue is primarily concerned with the linkage between the funding mechanism and the delivery of educational services at the local level, i.e., the resource quantities (reflected in the RCM) used as the bases for funding educational programs in the state and the resource quantities that districts would actually be required to provide. In more concrete terms, if sixth grade classes are funded on the basis of no more than 28 pupils per class and districts have an average of 30 students in these classes, what should be the impact on the funding they receive through an RCM-based funding mechanism?

A crucial set of policy questions that must be resolved outside of the confines of this conceptual framework, is the degree of conformity that should be required between the program specifications which are serving as the basis for state aid and the actual resources that are being provided in school districts. Must children actually be receiving supplemental programs if the funds their districts are receiving are based on the estimated costs of providing these programs? If yes, how closely must these programs mirror the resource configuration descriptions outlined in the RCM formulae? For example, as currently specified the RCM model includes pull-out classes for music, art and physical education for all elementary children. If districts are not currently providing these services, should the programs be counted as part of the programmatic base from which their educational costs will be estimated? Moreover, should all of the districts of the state be required to provide such programs for their elementary program populations? The vocational education course, Home Economics Orientation, is specified as requiring $3,000 per class per year for special equipment. To what extent should it be required that equivalent amounts of special equipment actually be provided in these courses? If districts are violating these specifications, what should be the result?

It should be noted at the onset that these sets of issues are not likely to be easily resolved. They are at the heart of the struggle between greater accountability, as seen from the vantage point of state policy makers, and the desire for autonomy, as viewed by local decision makers. The RCM framework is quite flexible and can be implemented under conditions of strict accountability or few controls. This issue must be determined by policy makers in Illinois and must be reflective of the priorities of the state as well as historical practice and tradition. The RCM can operate under the full range of centralization conditions--from a very tight linkage between the basis for funding and the services actually being provided, to minimal linkages as in the case of simply providing an underlying rationale

for a state foundation grant.

First, let us temper the consideration of the extremes, i.e. strict to few centralized controls, with a few observations. Even in the case of no direct controls between program enrollments and the resources actually being provided, it can be anticipated that implicit controls will be operating. That is, even with no direct enforcement as to the actual resources that must be provided in classes, statewide standards will be implied by the RCM models. Educators and policy makers from all over the state have conferred to derive the resource standards on which the RCM is based. This will bring some pressure to bear on local districts to bring the programs they offer up to these state approved levels of provision. When the state bases funding on a maximum of more than 28 pupils in elementary classrooms, for example, it can be expected that some disgruntled parents will bring pressure to bear on districts in which class enrollments are substantially over this limit. Thus, some regulatory influence would be expected to result simply by the presense of implicit standards. Conversely, those who fear the loss of local autonomy that would result from strict controls should keep in mind that these controls are associated with acceptable resource levels only, saying nothing about the heart of the instructional process which is the methodologies employed and the curriculum presented.

In considering the centralization alternatives, it should be noted that in the case of Illinois, a strong tradition of local autonomy is widely acknowledged. While the state may be desirous of placing some parameters on local discretion in the development of educational programs, the history of the state would not seem to recommend the highly centralized approach described above. On the other hand, a decentralized approach, although useful as a rationale for developing program differentials, clearly restricts the ability of the state to influence local program adequacy across all of the educational program areas. From a state perspective, regulation and supervision within the various program categories will come from officials designated for that purpose at the state level. These state officials need to have feedback from the field in the development of the various rules and regulations. They may also be in the best position to make recommendations to the RCM Committee as to the best linkages that could be forged between the funding provisions for their programs and what is mandated in terms of local program delivery.

Thus, it is suggested that an eclectic centralization approach, i.e. a different linkage for each of the program categories, may provide the best forum for deriving the most appropriate balance between autonomy and uniformity. A committee of program experts and practitioners, similar (or identical to) the RCM program committees could convene to determine the best linkage for each of the program categories. The recommendations of each of these committees could then be referred to the RCM Committee for final consideration to assure that some form of equity prevails among the resulting counting schemes.

Examples of these varying linkages came to light in the discussions of some of the program category committees. The LEP

(Limited English Proficient) Committee, for example, recommended that an incentive be built into their self-contained class configuration to integrate LEP and regular elementary pupils. To provide this incentive, a counting mechanism could be adopted by the LEP committee, in conjuction with the regular elementary committee, that would allow regular elementary pupils to also qualify for some supplementary LEP funds when enrolled in self-contained classrooms containing half LEP pupils.

The Vocational Education Committee suggested that they would be interested in the possibility of developing a mechanism for counting pupils in programs that would allow differential funding for programs offered at different resource levels. That is, they might recommend funding for a VE course that falls below the minimum RCM recommended resource level, but at a reduced funding level. Similarly, they would like to entertain the possibility of allowing for some supplemental funding for courses offered at an exemplary level, i.e. a level of effort beyond what is specified in the RCM configurations.

One example mentioned by the special education committee was the differential way in which home and hospital pupils are served. Some districts may use a system of television instruction that is more economical for them, while other districts may wish to send instructors to the pupils' homes or hospitals. Although the first program would cost considerably less in some large districts, it may also be considered superior to an approach featuring personal contact, but of shorter duration. To accomodate this situation an additional configuration and an appropriate counting mechanism could be designed by the Special Education Program Committee.

It seems most appropriate to calculate program enrollments differently for the different program categories. This is due to the desire to avoid disincentives and to the varying nature of the various program categories. An eclectic approach explicitly acknowledges these differences. It would allow for the provision of certain positive incentives for program enhancement or flexibility that the state may wish to employ in its funding mechanism, thereby linking the funding system with state programmatic objectives. Lastly, it would enhance the ability of the various program categories to specify appropriate configurations. All of the program category committees commented on the difficulty of the specification task in the absence of information as to how these configurations would be used as a basis for funding. Thus, a total package of recommendations from each committee, pertaining to appropriate resource levels, as well as counting and enforcement mechanisms, might be the best way to derive the most appropriate centralization linkages and enforcement mechanisms for each of the program areas.

C. Alternative Uses of the RCM Model

The discussion thus far has focused on the utilization of the RCM analysis as a basis for school funding. However, it is important to recognize that the value of the RCM framework and the simulation models which have been developed as part of this project extend beyond its use as a basis for distributing state aid. It is a valuable tool

for planning and budgeting for the state (or for that matter any educational agency, local, state, or federal). Multi-year projections of total costs or resource needs for the state as a whole and/or for any combination of educational programs and services could be easily accomplished. Moreover, the simulation model could be used to determine the cost and service consequences of alternative investment strategies related to educational priorities.

The RCM computer model produces two types of output: summary output and district level output. The summary output essentially summarizes the data derived directly from the RCM Worksheets containing the resource configurations and resource prices. It directly reflects the average costs of educational programs and provides a benchmark for comparisons of costs among programs and services. The district level output provides information on the total and average costs of each of the programs and services by district, total and per pupil resource needs, and the number of units (classrooms or schools) required to provide an "appropriate" level of educational services for each district in the state.

Both input and output data from the RCM analysis could be aggregated to the state level for making statewide projections of educational needs--both dollar resources as well as the quantities of different kinds of personnel. Such data could be tremendously valuable to legislators and their staffs considering the long run effects of alternative taxing strategies in relation to the state's needs for social services over time. Parameters have been built into the simulation program to facilitate estimates of increasing costs related to price inflation. Moreover, projections of changes in the level and composition of student enrollments by educational need could be fed in to determine the effects on cost and resource needs. These could even be refined to determine the effects of shifts in the distribution of state funds as the composition of students changes from one district to another across the state, while the overall composition remains constant.

There has been considerable discussion in Illinois of the impact of district consolidation and reorganization on educational costs and resource needs. The RCM simulation model could also be used to simulate the cost and service consequences of district consolidation and reorganization. The results are clearly dependent upon the resource specifications that are used as the basis of the cost estimates. However, if these represent what the state considers realistic estimates of local district needs, then they could well be used as the basis for providing some insight into the potential effects of consolidating the enrollments in various districts around the state.

V. Conclusion

In this paper we have attempted to demonstrate the need for a comprehensive framework that can be utilized as an underlying rationale for state education aid formulas. We have presented the technical components of such an approach and have described how these

procedures have been operationalized in Illinois.

The future of this endeavor in the state is now in the hands of the ISBE. A committee structure has been established to confront the ongoing nature of questions related to the definition of educational adequacy. The vitality of this process relies on an ongoing investment of resources. Due to the iterative nature of this process, "final" numbers are never derived. Although the nature of their tasks will be significantly diminished, these RCM committees should reconvene on an annual basis to redefine what is adequate and appropriate for the state as the public and professional conceptions of these standards evolve.

Perhaps the most interesting dimension of this study, differentiating it from most other contracted school finance projects, is the nature of the product. Rather than depositing a set of findings or numbers that the state can accept, reject or modify as it sees fit, Illinois has been left with a process for deriving a funding base for the state that can be altered and redesigned in-state to be most reflective of local priorities and needs. To assist them in this endeavor, the RCM simulation program has been transferred to the ISBE along with the necessary training in its modification and use. Thus, the thrust of this project has not been a set of answers, but rather a systematic set of questions, analytical tools and training experiences that will allow the state to produce their own answers, for this year and into the future.